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ABSTRACT

A description is given of the Classroom Organization and Management Program, designed to help teachers in grades 1-9 and staff developers improve their overall instructional and behavioral management skills through planning, implementing, and maintaining effective classroom practices. It also seeks to improve student task engagement and reduction of inappropriate and disruptive behavior through well-planned and appropriate academic tasks and activities. The program addresses underlying needs of both beginning and experienced teachers for more professional development and inservice training for teachers who wish to improve their management skills and for trainers who wish to provide professional development activities for teachers. The format is a series of 3-day teacher workshops and/or 7-day trainer workshops that focus on: (1) planning and implementing effective strategies for room arrangements; (2) rules and procedures; (3) student accountability; (4) consequences and incentives; (5) behavior management; and (6) conducting class lessons. Participants are taught observation techniques for follow-up and feedback. Appended are some questions on the program posed by the Program Effectiveness Panel. (JD)

89-9

SUBMISSION TO THE PROGRAM EFFECTIVENESS PANEL

ABSTRACT

Classroom Organization and Management Program

Goals: The primary goal of the program is to help teachers improve their overall instructional and behavioral management skills through planning, implementing, and maintaining effective classroom practices. An additional goal is the improvement of student task engagement and reduction of inappropriate and disruptive behavior through well-planned and appropriate academic tasks and activities.

Purposes and needs addressed: This program addresses underlying needs of both beginning and experienced teachers for more professional development and inservice training in classroom and behavior management. It provides materials and inservice training for both teachers who wish to improve their management skills and for trainers who wish to provide professional development activities for teachers. Because many teachers, especially beginning teachers, regularly cite classroom management as an ever-present concern (c.f., Veenman, 1984), the program addresses an important need for schools, faculties, and students.

Method of operation: Based on research findings from several experimental studies, the format is a series of 3-day teacher workshops and/or 7-day trainer workshops that focus on six areas: planning and implementing effective strategies for room arrangements, rules and procedures, student accountability, consequences and incentives, behavior management, and conducting class lessons. Participants are taught observation techniques for follow-up and feedback.

Audience: Regular classroom teachers in grades 1-9 are the primary audience for the program. Also, administrators, regional educational labs, state departments of education, and school staff developers wishing to design and deliver professional development workshops for teachers in these grades are an intended audience.

Claims: Claim 1 - Academic Achievement - Changes in Knowledge and Skills.
Students in English and math classes in grades 7 - 9 who were in the classes of teachers trained in the classroom management workshops made significantly higher gains on achievement tests than students in control group classes.

Claim 2 - Improvements in Teachers' Attitudes and Behaviors
Teachers who participated in the classroom management training workshops used the effective practices in their classrooms to a greater extent than teachers in the control groups.

Claim 3 - Improvements in Students' Attitudes and Behaviors
Students in classrooms of teachers who participated in the workshops had significantly less off-task, less inappropriate and disruptive behavior, and greater success in lessons than students in the control group classes.

SUBMISSION TO THE PROGRAM EFFECTIVENESS PANEL

Program Area: Inservice Training (Classroom management)

I. BASIC INFORMATION

A. Program Title, Location: Classroom Organization & Management Program (COMP)
Box 330 Peabody College, Vanderbilt University
Nashville, TN 37203
Contact person: Dr. Carolyn M. Evertson, (615) 322-8100

B. Original Developer: Dr. Carolyn M. Evertson, Peabody College, Vanderbilt University, directed the original research program (1977-1981) at the University of Texas, Research & Development Center for Teacher Education. Project staff included Dr. Edmund Emmer, Dr. Julie Sanford, Barbara S. Clements, and Dr. Murray Worsham. One experimental study was directed by Dr. Emmer (1981-82), and Dr. Evertson directed work on the program through the Arkansas Dept. of General Education (1982-1985). Dr. Evertson supervised the dissemination, training, and consulted with the school districts in adoption of the program in two model sites (1987-1988).

C. Applicant agency: Peabody College, Vanderbilt University. Peabody College is the College of Education and Human Development of Vanderbilt University which is a privately funded, non-profit institution of higher education.

D. Years of Projects:

Years	Type of study/activity
1977-78	Descriptive/correlational study - elementary grade (COS)
1978-79	Descriptive/correlational study - secondary grades(JHCOS)
1980-81	Experimental field study - elementary level (CMIS)
1981-82	Experimental field study - secondary level (JMIS)
1982-85	Experimental/evaluation study - secondary grades (CMTST)
1982-85	Experimental/evaluation studies - elementary grades (CMTET)
1983-88	Dissemination - statewide (Arkansas)
1987-present	Dissemination - two sites (Greeley, CO & Kentville (Kings Co.) Nova Scotia

E. Sources and Levels of Funding:

Period	Funds	Sources
1977-78	$150,000	National Institute of Education
1978-79	200,000	National Institute of Education
1979-80	210,000	National Institute of Education
1980-81	225,000	National Institute of Education
1982-83	8,500	Arkansas State Department of Education
	30,000	In kind contributions from local school districts (Arkansas)
1983-85	75,329	National Institute of Education
1987-present	20,000	Greeley (Weld Co.) CO
1987-present	40,000	Kentville (Kings Co.) Nova Scotia

II. DESCRIPTION OF PROGRAM

A. Program Goals:

The primary goal of the program is to help teachers improve their overall instructional and behavioral management skills through planning, implementing, and maintaining effective classroom practices. A related goal is the improvement of student task engagement and reduction of inappropriate and disruptive behavior through well-planned and appropriate academic tasks and activities.

B. Purposes and Needs Addressed:

This program addresses underlying needs of both beginning and experienced teachers for more inservice training in classroom and behavior management. Teachers, especially beginning teachers, regularly cite classroom management as an ever-present concern. Not only is there little argument as to the importance of good management from a common sense point of view, but research has also shown that many management variables are correlated with pupil achievement (Brophy & Good, 1986). Studies in the elementary grades (Anderson, Evertson, & Brophy, 1979; Brophy & Evertson, 1976) and in the secondary grades (Evertson, Anderson, Anderson, & Brophy, 1980; Evertson & Emmer, 1982) show that the more academically effective teachers in those studies have better organized classrooms and fewer behavior problems. Additionally, research indicates that the key to managing classrooms effectively begins from the first day of school with a systematic approach of advanced preparation and planning (Brophy, 1982; Evertson, 1987). This program addresses an important need for schools, faculties, and students by focusing on helping teachers plan effective management strategies for starting the year, as well as for implementing and maintaining these as the year progresses.

C. Intended Audience:

Regular classroom teachers in grades 1-9 are the primary audience for the program. Also, administrators, instructional supervisors, regional educational labs, and state departments of education wishing to design and deliver professional development workshops for teachers in these grades are an intended audience.

D. Background, Foundation, and Theoretical Framework:

The research literature on effective teaching from the past 10 years indicates the importance of classroom conditions that depend directly on the ability of teachers to organize and manage their classrooms. Some of these conditions include the productive use of time (Frederick & Walberg, 1980; Stallings, 1980); student attention or involvement in learning activities, task-oriented and goal-directed environments; and opportunities to interact with the teacher and instructional activities of appropriate difficulty (Bloom, 1976; Brophy & Evertson, 1976; Fisher, Berliner, Filby, Marliave, Cahen, & Dishaw, 1980; Medley, 1977). Kounin's (1970) pioneering work on student work involvement and deviancy identified dimensions of teacher management behaviors that laid the groundwork for further studies on classroom management and organization.

The Classroom Organization and Management Program (COMP), which drew its theoretical base from Kounin's work, was developed from a programmatic series of descriptive, correlational, and experimental research studies designed to discover key management practices and strategies and to test these in field experiments conducted with teachers in their own classrooms (Emmer, Sanford, Clements, & Martin, 1983; Evertson, Emmer, Sanford, & Clements, 1983; Evertson, 1985; 1988). These studies, funded by the National Institute of Education and conducted through the Research & Development Center for Teacher Education, the University of Texas, Austin, and the Arkansas Department of General Education, Little Rock, Arkansas, formed the basis for the Classroom Organization and Management Program. The research was conducted in three phases -- descriptive, correlational, and experimental, each of which is described below.

Phase One included two descriptive/correlational studies (Studies 1 & 2 in Table 1) in elementary and secondary classrooms. In these studies, observers conducted extensive observations at the beginning of school, starting on the first day and continuing throughout the year. At the end of the study, investigators correlated teachers' management practices with student outcomes such as task engagement, inappropriate and disruptive behavior, and student attitudes and achievement. Phase One demonstrated that there were significant correlations between specific teacher practices and student behaviors, both academic and social. The large number of teacher behavior and student outcome variables made it possible to examine patterns of teaching and to rank teachers in order of their management effectiveness and their effects on student outcomes (Emmer, Evertson, & Anderson, 1980; Evertson & Emmer, 1982). Data from Phase One provided the content for workshop materials and teacher manuals to be tested in Phase Two (Evertson, Emmer, Clements, Sanford, Worsham & Williams, 1981; Emmer, Evertson, Sanford, Clements, & Worsham, 1982).

Phase Two involved two experimental field studies (Studies 3 & 4 in Table 1) conducted to test the effectiveness of the information in the manuals on teachers' management behaviors at the beginning of the school year. Phase Two demonstrated that teachers in the experimental groups not only used management strategies and procedures significantly more than the control groups, but also students in these classrooms had significantly higher task engagement, less inappropriate and disruptive behavior, and higher academic success (Evertson, Emmer, Sanford, & Clements, 1983; Emmer, Sanford, Clements, & Martin, 1983). In Phase Two, the experimental treatment was delivered by project staff at the Research & Development Center for Teacher Education, University of Texas, Austin. It became apparent after Phase Two that, while acquainting teachers with management principles seemed to be effective, other more efficient methods would have to be devised to export the training program more broadly. Was the classroom management training replicable in other sites?

Phase Three resulted from concerns about how best to disseminate the program tested in Phase Two. The goal of Phase Three was to determine if school district personnel, all of whom had had classroom experience, could deliver the manual-based training to teachers within their schools. In Phase Three, three Arkansas school districts participated in two field-based studies (Studies 5 & 6 in Table 1) designed to test the effectiveness of the classroom management training using school district personnel as trainers and observers. Findings from Phase Three showed that, even with different trainers and with considerably less observation time available than in Phases One and Two, this trainer-of-trainers of teachers approach produced results similar to those in Phase Two. Teachers in the experimental groups in these studies used the management practices from the training significantly more than the control group and had significantly less off-task behavior and less disruptive and inappropriate behavior (Evertson, 1985; in press). Comparisons of results across Studies 3, 4, 5, and 6 are shown in Table 5.

In all, two descriptive/correlational studies were conducted from 1977-79, involving 28 elementary and 102 secondary classrooms (two classrooms each for 51 teachers); four experimental field studies were conducted 1980-83, involving 70 elementary and 54 secondary classrooms (including grades 1-9). Table 1 gives a chronology of the research studies, grade levels, total hours of in-class observation, and students and teachers involved.

Results from these studies indicated that recommendations and suggestions for teachers that are aimed at planning rules and procedures ahead of time, presenting these to students along with expectations for appropriate behavior, and providing regular feedback to students about academics and behavior can result in improved task engagement. In addition, the experimental groups in these studies showed less inappropriate student behavior, smoother pacing of instructional activities, higher engagement in academic activities, improved teacher monitoring of student work, more efficient transitions between activities, and a more task-oriented focus when compared with a control group without such training.

Table 1. Descriptive/correlational, experimental, and experimental/evaluation studies conducted to investigate effectiveclassroom management practices.

	Yrs.	Grades	Subj.	Obs. Hrs.	Schls	Teach-ers	Class-rooms	Sts.	SOURCES
Descriptive/Correlational Studies									
1 Classroom Organization Study (COS)	1977-78	2-4	Rdg/math	900+	8	28	28	650	Emmer, Evertson, & Anderson (1980); Evertson & Anderson (1979)
2 Jr. High Classroom Organization Study (JHCOS)	1978-79	7-8	Eng/math	1,400	11	51	102	2,800	Evertson & Emmer, (1982)
Experimental Field Studies									
3 Classroom Management Improvement Study (CMIS)	1980-81	1-6	LA/Rdg/	910	14	41	41	1,066	Evertson, Emmer, Sanford, & Clements s (1981)
4 Jr. High Management Improvement Study (JHMIS)	1981-82	7-8	Eng/math	836	10	38	76	2,052	Emmer, Sanford, Clements, & Martin (1983)
Experimental/Evaluation									
5 Classroom Management Training for Elementary Teachers (CMTET)	1982-83	1-6	LA/rdng math	176	3	29	29	725	Evertson (in press)
6 Classroom Management Training for Secondary Teachers (CMTST)	1982-83	7-9	Eng/math	96	2	16	16	384	Evertson (1985)
Totals				3,408	29	203	422	7,677	

E. Features: How the program operates:

1. Scope: The Classroom Organization and Management Program (COMP) is intended to supplement other professional development activities and provides the necessary foundational management skills on which other academic and instructional programs must build.

2. Curriculum and instruction approach: COMP provides teachers with management ideas and materials and involves them in activities directly relating these to classroom management in their own classrooms. The program is presented with a tripartite focus on planning, implementing, and maintaining.

3. Learner activities: COMP is designed to be an inquiry-based approach to professional development. The workshops are models of a process that can be implemented in the school's own professional development program. Outline of workshop activities and participants roles is shown below.

   a. Assessment and problem identification
      Teachers begin by using focusing checklists to assess their own classrooms and to identify areas of concern. The group leader helps relate concerns to relevant research.

b. Research-based content presentations
Activities engage participants in examinations and analysis of the research-based principles, using vignettes, cases studies, film, and simulations. This cycle is repeated for each topic and the instructional process for participants and group leaders includes the following:

1. Presentations based on research findings (program staff/group leader)
2. Group discussion and problem-solving using guidelines, checklists, and case studies (small groups or teacher/administrator teams)
3. Identification of guidelines and approaches applicable to classrooms
4. Discussion of strategies to be implemented (small groups or teacher/administrator teams)
5. Feedback on tentative solutions to problems (total group and small groups)
6. Individual group reports on tentative solutions (small group/team reporters)
7. Sharing of strategies, and techniques (total group)

c. Formulation of implementation plans
1. Reexamination of diagnostic assessments (individuals)
2. Focus on problems participants identify (total group)
3. Formulation of plans for new approaches (individuals, small groups, or teacher/administrator teams)
4. Follow-up on roles, responsibilities, and tasks (teacher/administrator teams) (e.g., arrangements for peer observations, feedback on practice of new techniques)
5. Development of structure for ongoing follow-up and maintenance of plans (group leader, small groups, teacher/administrator teams)
6. Development of structure and process to continue inquiry in school settings (small groups, teacher/administrator teams)

4. Learning materials: Materials used in the professional development workshops include two commercially published books, Classroom Management for Elementary Teachers (Evertson et al., 1989) and Classroom Management for Secondary Teachers (Emmer et al., 1989), a workshop manual for teachers, and a manual for trainers. Both manuals include six modules:

a. Organizing the classroom Teachers examine research-based findings on effective classroom arrangement and apply those findings to their own classrooms.

b. Planning and teaching rules and procedures Teachers decide what behaviors are acceptable and unacceptable in their classrooms. They then consider what procedures students must follow in order to successfully participate in class activities, to learn, and to function effectively in the school environment. Finally, they learn how to teach these needed procedures.

c. Student accountability Teachers examine effective procedures for keeping students responsible for their work and then develop accountability procedures for their own classrooms.

d. Consequences and incentives Teachers examine guidelines for establishing consequences and incentives, examine those proven useful in the classroom, and develop consequences and incentives for their own classrooms.

e. Planning and organizing instruction Teachers examine ways to organize instruction to provide learning activities at suitable levels for all students in their classes.

f. Conducting instruction and maintaining momentum Teachers examine ways to conduct clear instruction that includes all students and keeps the lesson moving forward.

5. Staff activities and staffing patterns: A district may choose to have their own personnel trained to deliver workshops to their teachers. Time for the workshops and for follow-up with teachers will need to be integrated into the school calendar. A coordinator to oversee or deliver workshops and provide assistance to participants is needed.

6. Staff development activities: The Classroom Organization and Management Program may be disseminated in two ways:

   a. Training of Teachers Teachers attend a three-day workshop, receive materials and training, and directly relate this to their own classrooms. There is a 1 to 1 1/2 day follow-up which is optional, however, most program adopters find the follow-up beneficial. Training takes place on-site. Maximum number of participants in workshops is 20.

   b. Training Trainers of Teachers Selected teachers or administrators from a school or district attend a seven-day workshop and receive materials and training to enable them to provide the Trainer-of-Teachers model to classroom teachers. There is a 1 1/2 to 2 day follow-up which is optional. Training can take place in Nashville or program staff members can come to an appropriate site away from Nashville. Maximum number of participants for this model is 12.

7. Management activities: There are no specific management activities required; however, arrangements must be made for teachers to be away from their classrooms. Scheduling of workshops and opportunities for follow-up in classrooms of teachers who want feedback should take place. Some release time for teachers to observe each other should also be scheduled.

8. Monitoring and evaluation procedures: Participants are taught observation techniques that they can use to provide feedback to each other. Also, trainers in the Trainer-of-Teachers model are taught additional observation techniques.

F. Significance of program design as compared to similar programs:

Teachers are provided with research-based principles for managing and organizing classroom tasks. With these principles they plan and develop strategies that directly relate to their own classrooms and needs. Teachers can pinpoint their own trouble spots through self-assessments and through peer observations as the year goes on. The program is unique in that it deals directly with teachers' management concerns and provides a structure for them to use in problem solving and develop a decision making frameworks for their own classrooms. Few other programs combine research-based principles and utilize teachers' own concerns as a basis for individualizing management procedures in specific classrooms.

III. POTENTIAL FOR REPLICATION

A. Settings and participants (Development and Evaluation sites):

COMP was originally tested with 124 teachers in 29 schools that varied in size from rural to metropolitan in two states (See Table 1). Student and teacher populations represented are black, white, and hispanic. Ability to incorporate the processes taught in the workshops was accomplished equally well in all of the schools, suggesting that the processes are can be applied in a wide range of schools and student populations.

In comparing results of Studies 5 & 6 with those of Studies 3 & 4, 10 variables were significant for the experimental group in all four experimental studies. Seven additional variables were significant in the same direction in 3 out of the 4 studies. In no case were trends reversed from one study to another. (See Table 5). Treatment effects were always in the same direction. In a

few cases the same variables were not measured across all studies. The findings for the experimental groups were quite strong in all four experimental studies. Teachers trained by district personnel performed about same or better as those trained by researchers.

Following Studies 5 and 6, the Arkansas Department of General Education implemented the program statewide and designated a state facilitator for adopters. Personnel from the original group of trainers served as state and local trainers. From 1983 until the present, 318 of the then 333 school districts in Arkansas have implemented the program. Facilitators at the Arkansas Department of General Education have reported that the program is seen very positively and is highly popular with school districts and teachers.

The Training-of-Trainers model was implemented in Greeley, Colorado (Weld Co., Dist. # 6) in response to the district's need to develop a classroom management program for all of their teachers. Fourteen teachers on special assignment took part in a workshop conducted by Dr. Evertson in October, 1987. Eleven teachers in this group and one administrator have since provided training for 160 of the district's 700 teachers. Ron Roggy, Staff Development Coordinator, has reported a waiting list of between 35 to 50 teachers. Response from teachers in the workshops has been extremely positive. Evaluations have ranged from 4.5 to 5.0 on a five point scale of satisfaction with the material and evaluations of its usefulness. Teachers and administrators report smoother starts at the beginning of the year.

A second site that implemented the Training-of-Trainers model was Kentville, Nova Scotia. This district set aside funds to adopt the program and to have 11 volunteer teachers trained to be district trainers. This training was completed in October, 1987, and workshops for 60 teachers have been provided since September, 1988. Greg Ross, Eastern Area Supervisor, reports a waiting list of teachers asking to be in the workshops. Teachers' and administrators' responses as well as responses from the school board and the teachers' union have been extremely positive.

The Association for Supervision and Curriculum Development (ASCD) released a film in 1988 based on COMP in 1988 entitled Classroom Management, with Pat Wolfe.

B. Replicable Components and Documentation:

All elements of the program are transportable. The materials for teachers and contains a manual and one or two texts, depending upon grade level (elementary or secondary). Materials for potential trainers include a teacher's manual, two texts, a trainer's manual, and materials for conducting observations. No special equipment is needed.

C. User Requirements:

Model 1 - Training-of-Teachers: Teacher training requires release time for teachers to attend a three-day workshop conducted by the program staff and the assignment of a local coordinator to coordinate visits to teachers' classrooms where follow-up and peer support is requested. Materials must be purchased for teachers. Principals' and other administrators' attendance at the workshop is highly desirable.

Model 2 - Training-of-Trainers: Training of on-site trainers requires release time for teachers or district personnel for about seven days total to take part in workshop training, peer observation training, and practice with workshop materials. and content. Materials must be purchased for trainers; these include a trainer's manual, teacher's manual, and two commercially published texts. Principals' and other administrators' workshop attendance and involvement is highly desirable.

D. Costs (for implementation and operation)

Projected costs for both the Trainer-of-Teachers and the Trainer-of-Trainers models and for both beginning and subsequent years are explained in Table 2. Costs will vary depending upon the numbers of groups of teachers to be trained and where training is done. For example, it would be possible for potential trainers to participate in training workshops conducted in Nashville as well as for project staff to conduct training at other sites.

Table 2. Projected costs of the Classroom Organization and Management Program

Item	Start-up Year 1		Operation Year 2 and after	
	Model 1 Teacher Training (Max: 20)	Model 2 Trainer Training (Max: 12)	Model 1 Teacher Training	Model 2 Trainer Training
Personnel	Release time for teachers to attend 3- day workshop	Release time for district personnel/ teachers to attend 7 days of workshop	Coordinator's time for scheduling for scheduling follow-ups or for training	
Training	Honorarium + expenses for program staff trainer ($750/day)	Honorarium + expenses for program staff trainer ($850/day)	(optional)	
Equipment	Overhead projector and VCR/monitor		same	
Materials & supplies	$ 50	$100	--	--
Other	Travel & expenses for one program staff trainer (1 trip)	Travel & expenses for one program staff trainer (2 trips)	Travel & expenses for one program staff trainer (1 trip) optional	
Total Cost	$3,250 (plus expenses)	$6,450 (plus expenses)	(plus expenses)	
Cost per user	$ 162 (plus expenses)	$ 595 (plus expenses)		

IV. Evidence for Claims Statements:

A. Claim Type 1: Academic Achievement - Changes in Knowledge and Skills.

Acquisition of Factual Knowledge: In Study 6 (CMTST), students in 6 experimental classrooms in grades 7 - 9 made greater gains on standardized tests in language arts, reading, and mathematics than did students in the control group classes.

B. Description of Methodology for Claim 1:

1. Design: To assess COMP's possible effects on student achievement, student achievement test scores (math and language arts) taken the prior spring were used as pretests for both the experimental and control group classes. Achievement test scores for the same students taken in the following spring, after the workshops were completed, served as post-tests.

2. Sample: The sample includes 272 students in English and math classes (grades 7-9) who had valid pretest and posttest scores, an average of 17 students per class (range 12-24). Math classes

were tested for effects on math subtests of the achievement tests, and English classes were tested for effects on language arts and/or reading scores. Of the 272 students, 164 were in English classes and 108 were in math classes; 126 students were in experimental group classes and 146 in control group classes. The sample contained 108 7th graders, 70 8th graders, and 94 9th graders. This sample of students represented approximately 60% of all students in grades in 7-9 these two subjects.

3. Instruments and procedures: The tests used included the Stanford Research Associates Test (SRA) and two criterion-referenced tests, the district's Criterion-Referenced Test (CRT) and the State Assessment Test of Basic Skills (SATBS). Split-half reliability for the SATBS was .93. A study of the CRT's relationship with the SATBS was conducted by the district and showed a correlation of .90 between the two tests. Statistical analyses procedures are described in detail in Evertson, Weade, Green & Crawford (1985).

Each row in Table 3 represents available data for a single class. The CRT analysis in language arts consisted of two (2) experimental classes and four (4) control classes. The CRT math analyses compared two (2) experimental and two (2) control classes. For the remaining six (6) classes, prescores on the SATBS were examined; all were 9th grade classes. Two pairs of classes were chosen for class-by-class comparisons. The selection was based on determination of which of the two available experimental classes had prescores that were closest (based on the mean) to the prescore of the control group class in the appropriate subject area. This design and the attendant analyses allowed the use of 14 of the 16 classes. Two experimental classes remain unanalyzed because there were no appropriate comparisons. Scores on the CRT and SATBS reflected a percentage of objectives mastered. The SRA test provides nationally normed percentiles; these were transformed into equal interval normal curve equivalent (NCE) scores for inferential analyses.

Table 3. Experimental Design: Matching of Pre- and Posttests

Pretest Measures				Posttest Measures			
1982 CRT Math	LA	1982 SATBS Math	Reading	1983 CRT Math	LA	1983 SRA Math	Reading
	E				E		
	E				E		
	C				C		
C				C			
C				C			
	C				C		
E				E			
E				E			
	C				C		
	C				C		
			(E)				(E)
			E*				E*
			C*				C*
		(E)				(E)	
		E+				E+	
		C+				C+	

E = Experimental group
C = Control group

() These classes were not analyzed because there were no appropriate comparisons.
*: These classes were used in class-by-class comparisons because their pre-scores in reading matched closely.
+: These two classes were used in the math class-by-class comparisons because their prescores matched closely.

4. Data collection: The test data were collected as a regular part of the school districts' testing program. Standardized procedures were used in all classrooms. The CRT's were collected and scored electronically in the district's central offices. The SATBS were sent to the Arkansas Department of Education's Division of Curriculum and Assessment for scoring. The SRA's were scored by Stanford Research Associates.

5. Data analysis: Three approaches were used to analyze achievement data for the 14 classes. They included (1) analysis of student raw gains and regression adjusted performance (ANCOVA) without regard to classrooms, (2) analyses of between-class variance on raw gain and regression-adjusted gain (ANCOVA), and (3) paired comparisons, class-by-class, of the two pairs of classes with SATBS pre-scores and SRA post-scores (ANCOVA and, for reading and language arts, multivariate ANCOVA). However, analyses 3 is based on only two classrooms and is, therefore, likely to yield unstable estimates.

6. Description of results: For analysis 1, raw gains on the CRT (10 classrooms, students' scores "pooled" without regard to classes) revealed differences in favor of the trained teachers' students (language arts: F (1,116) = 32.82, $p < .0001$; effect size = 1.13; math: F (1,66) = 4.26, $p = .043$; effect size = .59). For analysis 2, between-class CRT raw gains also favored trained teachers (F (1,116) = 479.71, $p < .0001$; math: F (1,66) = 110.04, $p < .0001$).

In all, 11 comparisons were generated: 9 showed higher means for the trained teachers, and 7 of these 9 were statistically significant ($p < .05$). Neither of the two comparisons favoring the control group were significant. These findings are summarized in Table 4. Full discussion of the statistical procedures is available in Evertson, Weade, Green & Crawford (1985).

Table 4 Summary of Achievement Analyses

CRT Scores Across Classes	Exp. Group	Con. Group
Raw Gains:		
Language Arts	Higher *	
Math	Higher *	
ANCOVA - Adjusted gains:		
Language Arts	Higher *	
Math	Higher (p =.14)	
CRT Scores, Between-Class Analysis		
Raw Gains:		
Language Arts	Higher *	
Math	Higher *	
ANCOVA - Adjusted gains:		
Language Arts	Higher *	
Math	Higher *	
Paired Class-by-Class Comparisons		
ANCOVA - Adjusted gains:		
Language Arts	Higher (ns)	
Reading		Higher (ns)
Math		Higher (ns)

* = $p \leq .05$

C. Claim Type 2: Improvements in Teachers' Attitudes and Behaviors

Change in Teacher Behavior: Teachers participating in the workshops used the effective managerial and instructional practices and principles provided in the workshops significantly more so than did the control teachers.

D. Description of Methodology for Claim 2:

1. Design: Four experimental field studies were conducted to test the effects of workshop training in principles of classroom management and organization. An experimental - matched control group design was used and observational data were collected in all classrooms beginning with the first day of school and continuing throughout the year in Studies 3 & 4 and until November in Studies 5 & 6 (Table 1). Hours of observation and subject matter areas observed are shown in Table 1.

2. Sample: Samples included 37 experimental and 33 control group teachers (Grades K-6) and 26 experimental and 28 control group teachers (Grades 7-9). In Study 4 subject areas were math, science, English, and social studies; in Study 6, English and math. In Studies 3 & 5 observers saw primarily reading and mathematics, but occasionally other lessons were also observed.

3. Instruments and procedures: A variety of observational measures was used. These included narrative field notes, classroom component ratings of lesson management, inappropriate and disruptive behavior, efficiency of instructional routines, percentages of students engaged, records of time use, efficiency of transitions, feedback to students, etc. Trained observers were used in all studies. Training activities included reliability checks and practice with videotapes of classroom instruction. Observers collected narrative records in all studies and in Studies 5 & 6, verbatim audiotapes of class lessons were collected. Observers completed classroom ratings (5-point scales) after each observation and summary ratings at the end of the studies. Observers were trained to a reliability criterion of .85 on classroom rating scales and other measures. Regular reliability checks were conducted as data collection progressed to prevent observer drift. Frequency counts of on- and off-task behavior were reliable at .85.

4. Data collection: Workshops were delivered prior to the opening of school to all of the teachers in the experimental groups. All teachers in both groups were observed on either the first or second day of school and in Studies 3 & 4 emphasis was given to the first 8 weeks. Workshop teachers were asked not to share materials or to discuss the training with teachers in the control group.

5. Data analysis: At the end of data collection, mean scores for the classroom rating scales were computed and F-tested using one-way analyses of variance. Narrative records were also scored using reader ratings (5-point scales) to assess the degree to which teachers used the prescribed practices. Table 5 shows the findings for each of the key classroom management variables for each of the four experimental studies.

   A significance level of $p \leq .05$ indicated an effect size of .50 or larger. Effect sizes could not be computed for Study 4, however, because standard deviations are not reported; however, it seems reasonable to assume that the practical significance of the statistical differences is similar to that of the other studies.

6. Description of results: In Table 5, a plus (+) indicates that the experimental group had significantly higher scores than the control group on the variable. A minus (-) indicates that the experimental group had significantly lower scores than the control group on the variable. Of the 32 key variables listed in Table 5, 59% (19 variables) were significant in favor of the

Table 5. Results from observational ratings collected in experimental field studies of implementation of classroom management procedures.

	Study 3 CMIS Gr 1-6 N=41	Study 4 JMIS Gr 6-8 N=38	Study 5 CMTET Gr 1-6 N=29	Study 6 CMTST Gr 7-9 N=16
Teacher Behavior Variables				
I. Readying the Classroom				
Classroom is ready for school	+	NS	+	(+)
II. Developing Rules and Procedures				
a. Efficient administrative routines	+	+	+	NS
b. Appropriate general procedures	+	+	+	+
c. Efficient small group procedures	NS	NM	+	NM
III. Monitoring				
a. Of student behavior	+	+	+	+
b. Of transitions between activities	+	+	+	+
IV. Managing Student Behavior				
a. Rewards good performance	+	+	+	+
b. Consistent management of behavior	+	+	+	+
c. Signals appropriate behavior	+	NS	+	+
d. Allows class to get out of hand	NM	-	NS	-
e. Stops disruptive behavior quickly	(+)	+	NS	+
f. Stops inappropriate behavior quickly	+	+	+	+
g. Ignores inappropriate behavior	-	-	NS	-
V. Teaching Rules & Procedures (First week of school)				
a. Presents, reviews, discusses rules/procedures	+	(+)	+	NS
b. Rehearsal, practice included in presentation	+	(+)	+	+
c. Teacher stays in charge of class	+	NS	+	NS
VI. Organizing Instruction				
a. Student attention spans considered	NS	(+)	+	(+)
b. Appropriate lesson pacing	NS	NS	+	+
c. Lessons related to students backgrounds and interests	NM	NM	NS	+
d. Low amount of down time when students are waiting	NM	NS	+	(+)
VII. Student Accountability				
a. Checks students' understanding	+	+	+	(+)
b. Consistency in enforcing academic work standards	+	+	+	+
c. Suitable routines for collecting and checking work	+	+	+	+
d. Teacher holds students responsible for academic work	+	+	+	NM
e. Monitors progress in completing assignments	+	+	NM	NM
f. Class has task-oriented focus	NS	NS	+	+
g. Teacher plans appropriate amount of class work	+	+	+	(+)
VIII. Instructional Clarity				
a. Describes objectives clearly	+	NS	+	+
b. Clear directions for assignments	+	(+)	+	+
c. Clear explanations & presentations	+	NS	+	+
d. Checks students' understanding of instructions	+	+	+	+

+ Experimental group had significantly higher mean scores; $p \leq .05$
- Experimental group had significantly lower mean scores; $p \leq .05$
(+) or (-): positive or negative trend; $p \leq .10$
NM: variable not measured in this study
NS: not significant

E. Claim Type 3: Improvements in Students' Attitudes and Behaviors

Change in Student Behavior: In classrooms where teachers used the management and instructional principles provided in the workshops, student task engagement was higher, student off-task behavior was lower, and inappropriate student behavior was lower.

F. Description of Methodology for Claim 3:

1. Design: (Same as in Claim 2)

2. Sample: (Same as in Claim 2) Each class averaged 18-30 students, who were observed as they participated in their classes.

3. Instruments and procedures: The instruments and procedures are the same as those described in Claim 2. In addition frequency counts student engagement in tasks (% of on- and off-task behavior), ratings of inappropriate and disruptive behavior, student success in lessons, student attempts to get help on assignments, student cooperation in classroom tasks were recorded by observers. Percentages of students engaged were recorded a minimum of four times per hour of observation, yielding up to 100 estimates of student engagement over the course of the studies. Narrative records used in all studies included descriptions of student behavior as well as teachers' practices. Observers completed classroom ratings (5-point scales) of these variables after each observation and summary ratings at the end of the studies. Observers were trained to a reliability criterion of .85 on classroom rating scales and percentages of students engaged. Regular reliability checks were conducted as data collection progressed to prevent observer drift.

4. Data collection: Observers were trained to collect data on student engagement, cooperation in classroom tasks, behavior in class lessons, and general behavior in class during each observation. These variables were measured as class observations were made (described in Claim 2).

5. Data analysis: At the end of data collection, mean scores for the classroom rating scales measuring student outcomes were computed and F-tested using one-way analyses of variance. Percentages of classroom of students engaged vs. not engaged in classroom tasks were calculated. Narrative records were also scored using reader ratings (5-point scales) to assess the degree to which students cooperated in class activities. Table 6 shows the findings for the student variables in each of the four experimental studies.

A significance level of $p \leq .05$ indicated an effect size of .50 or larger. Effect sizes could not be computed for Study 4, because standard deviations are not reported, however, it seems reasonable to assume that the practical significance of the statistical differences is similar to that of the other studies.

6. Description of results: In Table 6, a plus (+) indicates that students in the experimental group had significantly higher scores than the control group on the variable. A minus (-) indicates that students as a group the experimental group classes had significantly lower ratings than the control group on the variable.

Table 6. Results from Observational Data Collected in Experimental Field Studies of Student Behavior.

	Study 3 CMIS Gr 1-6 N=41	Study 4 JMIS Gr 6-8 N=38	Study 5 CMTET Gr 1-6 N=29	Study 6 CMTST Gr 7-9 N=16
Student Variables				
a. Sts. call-out frequently	-	-	NS	-
b. Sts. frequently out of seats	NM	-	(-) (es .39)	-
c. Low amount of inappropriate behavior	NM	NS	+	+
d. % of students on-task	+	+	(+) (es .48)	+
e. % of students off-task	-	-	-	-
f. Student success in class lessons	NS	(+)	(+) (es .40)	+

+ : Experimental group had significantly higher mean scores; $p \leq .05$
- : Experimental group had significantly lower mean scores; $p \leq .05$
(+) or (-): positive or negative trend; $p \leq .10$
es: Effect size
NM: variable not measured in this study
NS: not significant

G. Summary of supplementary evidence for each claim:

Claim 1:
Micro-analyses of class lessons in Study 6 (Evertson & Weade, in press) and Weade & Evertson (1988) have shown differences in the quality with which the experimental group and control group teachers delivered classroom lessons. The findings from the micro-analyses lend support to the connection between effectively managed classrooms and student achievement gain. Key differences between experimental and control group teachers were in the provision of opportunities for students to engage in academic tasks. Also, teachers in the experimental classes provided better signals, protected lessons from interruptions and diversions, and held students accountable for participation in lessons.

Claim 2:
Reports from teachers who have experienced the workshops in Boulder and Greeley, CO have indicated that teachers have changed their classroom practices and these changes have resulted in smoother starts at the beginning of school. Ross Beck, Superintendent, Texarkana, AR, school district has written: "Teachers continue to be impressed with the program and use the workbooks...as reference material. As we have continued the program since its inception, the overwhelming comment received from teachers is that the beginning of school is so much easier. It is easy to walk into a classroom and notice who has and who has not had the training. This is most obvious when looking for signs of rules and procedures having or not having been taught."

Claim 3:
Beck's comments also lend support for Claim 3. He states, "Over the last 5 to 6 years, we have noticed a sharp decrease in the use of corporal punishment. It is safe to say that the use of corporal punishment has decrease at least 50% in the junior high schools since the inception of the Classroom Organization and Management Program. I attribute this to teachers' actively seeking more productive alternatives in working with students."

H. Interpretation and discussion of results:

1. Relationship between effect and treatment: The elements of the training were directly measured in the observations. For example, the measures listed in Table 5 are grouped into sections relating to the content covered in the workshops. For example, Student Accountability is covered in workshop Module 3 and is directly measured by the set of variables in Table 4 under that section. The measures shown in this table were developed to directly assess teachers' use of the material and principles taught in the workshops.

2. Control of rival hypotheses:

   a. Control for systematic bias in selection of subjects for experimental and control groups. Systematic bias could have potentially been a threat to validity of the results in at least two ways. In the first way, teachers with reputations as better managers or with more experience could have been systematically assigned to the experimental group. To control for this, teachers in all studies were matched on experience, grade level, subject area, and other key demographic variables then randomly assigned to the training and control groups.

   A second potential threat to validity was that control teachers' classrooms might have had lower ability students or special needs students to a greater extent than the experimental teachers' classrooms. If this were so, teachers in these classrooms would have more difficulty keeping students engaged and managing student behavior. This could then have resulted in lower frequencies of on-task behavior and higher ratings of inappropriate and disruptive behavior. This possibility was addressed in all of the experimental studies (Studies 3 - 6). With one exception, only teachers whose classes were composed of typical or average ability students were included. Gifted or special education resource classrooms were not included in the studies. In Study 5, however, some teachers did include some teachers who teach classes of low achieving students. In this case, treatment and control groups were balanced for student entering achievement level as well as teaching experience, grade level, and other demographic variables that could affect the outcome of the study. Treatment and control group differences for teachers of lower achieving classes showed the same pattern as those the average achieving classes. That is, teachers of low achievers were also able to benefit from the workshops in comparison to the control group teachers.

   b. Halo effects: The possibility that halo effects could have resulted in observers rating warm, friendly, or charismatic teachers higher on other key management variables was also addressed. Variables that are particularly susceptible to positive or negative halo effects (relaxed, pleasant atmosphere; uses listening skills; and expresses feelings) showed no significant difference between experimental and control groups in any of the studies. Teacher enthusiasm was significantly higher in the experimental group in only one study (Study 4). Also, at least two observers saw all teachers in all of the studies. In the larger studies (Studies 3 & 4), regular reliability checks were conducted every four to six weeks by members of the project staff who had not previously seen the teachers. In addition, observers were not aware of who was in the experimental or control groups in any of the studies. Teachers were also asked not to talk about their participation in the workshops to observers about the studies. From the information we have, this request was honored.

   c. Hawthorne effects: It is possible that the Hawthorne effects could be operating in the classes of teachers who were in the experimental group simply by their having been in the workshops. However, the purposes of the experiments were told to both groups; treatment of the experimental and control groups differed only in that one group got the workshops. Both groups were observed; both groups received feedback at the end of the studies. Control group

teachers in Studies 3, 5 & 6 were promised and were included in workshops in the late spring after data collection.

I. Educational Significance of Results:

1. Relationship of results to needs: The original intent of this line of research and program development was to devise effective means of training teachers in effective classroom management strategies. The results of the studies conducted have shown the following: 1) There are strategies that, if used by teachers, can result in better student task engagement, more positive student behavior, and smoother instructional activities. 2) These strategies can be taught to teachers in relatively efficient ways. 3) School personnel can serve effectively as trainers and as on-site support for teachers as they learn and practice the principles and strategies. 4) And, in some cases, there are not only effects on student behavior such as task engagement, inappropriate and disruptive behavior, but effects on student achievement as well.

2. Comparison of Results to Results from Other Programs: We know of no other programs designed to help teachers learn more effective ways of managing and organizing their classrooms that has the extensive research and development base of this one.

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89-09

Classroom Organization & Management Program
Questions

1. (See p. 17) The claim is made in the submittal that there are no other programs like this. How does this program differ from programs developed by Madeline Hunter or Carol Cummings?

The claim in the submittal statement was that we knew of no other programs with the research and development background of this one. The research studies on which this program is based have been published in the literature for the past ten years (60 articles and monographs in ERIC and CIJE; plus two commercially published books). Other developers have used this research and have developed activities from it for parts of their programs. Since many states are now mandating courses in classroom management as necessary for teacher certification and school districts want it for inservice, these programs will probably increase, however, the research base used for many of them is this one.

Madeline Hunter's program focuses on the essential elements of instruction. Teachers are trained to teach lessons using specific steps: to open with a lesson "set," to use but not abuse the principles of learning, to motivate the learning, to adjust the learning to the level of the learner, to come to closure after the instruction, etc. As such she does not deal specifically with organizing and managing the physical environment or student behavior. However, this program (COMP) and Madeline Hunter's program have been and are both being used side-by-side in many sites (South Carolina, Colorado, Arkansas, Texas). Hunter's program focuses more on instruction; this program focuses on the proactive setting up of the classroom: developing rules and procedures, teaching rules and procedures, managing student academic work, managing student behavior, and preparing to conduct instruction.

Carol Cummings' book, Managing to Teach, focuses on some of the same principles as COMP; however, the first one third of her book is drawn from the research base of COMP. She uses this work in her workshops and gives us credit.

2. Is there any indication whether this program is more beneficial to schools serving any particular socio-economic level? Is it truly generally applicable?

The experimental studies were conducted in schools that ranged from Title 1/Chapter 1 to upper socio-economic status. Our data indicate that it is truly applicable to schools/classrooms across the full range of SES. It is true that often teachers in different schools face different problems and have different needs for skills and information; however, there appears to be something in the program for all participants.

3. Is there any evidence that this program is better than any other program that tries to teach classroom management and control, or is it simply better than no program at all?

We have not conducted a study that compared our program directly with other programs that purport to teach classroom management, nor has anyone that we know of. However, indirect evidence that this program adds to teachers' skills even though they have participated in other programs comes from Studies

5 & 6. All 45 teachers in Studies 5 & 6 had been trained in Madeline Hunter's program. Therefore, the experimental and control group differences reflect the added skills the experimental group teachers gained over and above training in Hunter's program.

4. Have any schools using this program dropped the program?

We have asked this of many of the school districts that adopted the program. None of the school districts we talked with had dropped the program. The reason most give is that there are new teachers entering the system each year and, once trainers are in place, the program is easy and cheap to deliver. Teachers have the need, and motivation is high. In one school district, the program has been in place for 7 years and is a regular part of their beginning school staff development.

5. How were the control group teachers selected?

In all four studies, teachers were recruited to take part in the research. They were randomly assigned (blocking for years of experience and grade level) to treatment and control groups within buildings. Control group teachers were told the purpose of the studies and were promised a workshop after data collection was completed (late March to April). We had no problems getting volunteers for any of the studies.

6. Did the control group get any training in classroom management at all during the project?

The control groups received training at the conclusion of each study, but not during the studies.

7. (See p. 12, Claim type 2) Did the control group teachers even know that these principles and practices existed?

Most of the principles and practices are those that most teachers are aware of and use to a greater or lesser extent. It was not that we were teaching them something they had never heard of, but that we were using the research findings to highlight the important elements in structuring the classroom environment. In so doing, the program provided a decision-making framework, including example techniques and planning time, that could be used to apply to their own classrooms. It was, we believe, this framework that provided teachers a new way of looking at their teaching. As one teacher put it: "It's not that they make you use a different style to teach, but that, however you teach, you can incorporate the important principles. It isn't that they tell you the rules to have, but that you have to have rules." The teachers in the experimental groups in these studies for the most part did not have to focus on getting control by using various disciplinary interventions (assertive discipline, etc.) because they gained control from the beginning.

8. Please define "effect size" and describe how it is calculated?

Effect sizes were calculated by subtracting the control group means from the experimental group means and dividing by the standard deviation of the control group. We used it to indicate the practical significance of a finding whether or not there was statistical significance.

9. (See Tables 3 & 4) How many teachers were involved in the evaluation of Claim 1?

The achievement scores available for the 16 classes were those that the school district already had. Students had not all been pre and post tested with the same instruments because they were at different grade levels.

Ten of the 16 classes were measured the same pre- and post-tests. Two of the 16 were not analyzed because of lack of an appropriate control. Four were used in class-by-class comparisons. In all, 14 teachers were involved in the evaluation of Claim 1.

10. (See p. 13) Please provide a summary statement for Table 5.

This table shows the mean scores from the observational data for key teacher behavior and teaching practice variables across the four experimental studies. The variables listed under each section correspond to the key principles in the training workshops. This table shows that for most of the key variables the experimental group teachers mean scores exceeded those of the control group teachers.

11. (See p. 15) Please provide a summary statement for Table 6.

This table shows the mean scores from observational data for key student behavior data across the four experimental studies. Student engagement percentages were derived from counts taken during observations. The other indices of student behavior were derived from classroom observation ratings. This table shows that for most of the key student variables, the behavior of the students in the experimental group teachers' classrooms was significantly better than the students in the control group classrooms.

12. Please provide actual means and standard deviations for Tables 4, 5, & 6.

These scores are provided on the attached sheets for Tables 4, 5, & 6. Please note that only the means, not the standard deviations, are available for Studies 3 & 4. These data were reported using only the means. Both means and standard deviations are given for Studies 5 & 6, however.

Please note that Table 5 of the submittal had a few typographical errors in representing the significance levels. The means, standard deviations, and significance levels shown in supplementary Tables 5a, 5b, 6a, and 6b are accurate. We apologize for any inconvenience.

13. (See pp. 13 & 15) How are the negatives handled on Tables 5 & 6?

The negatives simply mean that the experimental groups had significantly <u>lower</u> scores than the control groups on these variables. Since these variables tend to indicate undesirable conditions in the classrooms (high amounts of inappropriate behavior, off-task behavior, students wandering around, downtime, etc), lower scores in the experimental groups are in the hypothesized direction.

14. (See p. 10, Instruments and procedures) Reference is made to 3 tests used in the study; however, results are provided for only 1 test. Please provide the results for the other two tests.

Descriptions of the three tests are as follows:

(1) analyses of student raw gains and regression adjusted performance (ANCOVA) pooled across classrooms;

(2) analyses of between-class variance on raw gain and regression-adjusted gain (ANCOVA); and

(3) paired comparisons, class-by-class, of the two pairs of classes with SATBS pre-scores and SRA post-scores (ANCOVA and, for reading and language arts, multivariate ANCOVA).

Means and f-ratios for each of the three tests are shown in Table 4, attached.

Table 4. Analyses Using Three Tests for Student Achievement Differences (Study 5)

	Experimental M	SD	N	Control M	SD	N	f-ratio	p
TEST 1: CRT Scores Across Classes								
Raw Gains:								
Language arts	10.72*	6.75	(29)	-0.79	10.11	(89)	32.82	$\leq$ .0001
Math	5.53*	19.17	(34)	-2.97	14.48	(34)	4.26	$\leq$ .05
ANCOVA - Adjusted Post-test Means:								
Language arts	54.41*			43.00			32.74	$\leq$ .001
Math	50.40*			44.95			2.24	.14
TEST 2: CRT Scores Between Class Analyses								
Raw Gains:								
Language arts	10.73*	0.02	(29)	-0.80	2.84	(89)	479.71	$\leq$ .0001
Math	5.53*	2.83	(34)	-2.97	3.79	(34)	110.04	$\leq$ .0001
ANCOVA - Adjusted Post-test Means:								
Language arts	54.25*			43.05			504.87	$\leq$ .001
Math	59.61*			35.75			894.51	$\leq$ .001
TEST 3: Paired Class-by-Class Comparisons								
ANCOVA - Adjusted Post-test Means:								
[1]Language arts (2 classes)	33.86*		(19)	29.91		(16)	1.64	.34
Reading (same 2 classes as LA above)	31.31			35.60*			.93	.21
Math (2 classes)	26.06		(14)	27.63*		(12)	.20	.66

* Indicates the higher mean score

[1] For these two classes both Language arts and readings scores were analyzed.

Table 5a. Means for classroom ratings of teacher behavior and teaching practice in two experimental field studies (Studies 3 & 4).

	Study 3 CMIS Gr 1-6 N=41			Study 4 JMIS Gr 6-8 N=38		
	Ex M	Con M	p ≤	Ex M	Con M	p ≤
Teacher Behavior Variables						
I. Readying the Classroom						
Classroom is ready for school	4.28	3.71	.05	4.28	3.90	(.07)
II. Developing Rules and Procedures						
a. Efficient administrative routines	3.92	3.55	.05	4.14	3.75	.01
b. Appropriate general procedures	3.92	3.33	.01	3.88	3.43	.05
c. Efficient small group procedures	3.61	3.56	NS	-	-	
III. Monitoring						
a. Of student behavior	3.91	3.29	.01	3.87	3.10	.001
b. Of transitions between activities	3.72	2.89	.05	3.64	3.08	.05
IV. Managing Student Behavior						
a. Rewards good performance	3.35	2.94	(.08)	2.50	1.94	.05
b. Consistent management of behavior	3.90	3.11	.01	3.70	3.14	.05
c. Signals appropriate behavior	3.47	2.74	.01	-	-	
d. Allows class to get out of hand	-	-		1.68	2.51	.05

Table 5a. cont'd

	Study 3 CMIS Gr 1-6 N=41			Study 4 JMIS Gr 6-8 N=38		
	Ex M	Con M	p ≤	Ex M	Con M	P ≤
e. Stops disruptive behavior quickly	4.39	3.27	.01	4.23	3.50	.05
f. Stops inappropriate behavior quickly	3.73	2.84	.01	3.86	3.18	.01
g. Ignores inappropriate behavior	2.30	2.97	.01	2.25	2.89	.01
V. Teaching Rules & Procedures (First week of school)						
a. Presents, reviews, discusses rules/procedures	3.51	2.64	.01	3.09	2.61	(.06)
b. Rehearsal, practice included in presentation	3.15	2.20	.01	1.96	1.43	(.07)
c. Teacher stays in charge of whole class	4.32	3.53	.01	4.59	4.38	NS
VI. Organizing Instruction						
a. Student attention spans considered	3.57	3.38	NS	3.62	3.28	(.06)
b. Appropriate lesson pacing	3.69	3.47	NS	3.64	3.37	NS
c. Lessons related to students' backgrounds and interests	-	-		-	-	
d. Low amount of down time: students waiting	-	-		-	-	
VII. Student Accountability						
a. Checks students' understanding	3.80	3.46	.05	3.72	3.19	.01
b. Consistency in enforcing academic work standards	3.92	3.23	.01	3.68	3.12	.01
c. Suitable routines for collecting & checking work	3.83	3.40	.05	3.85	3.51	.05

Table 5a. cont'd

	Study 3 CMIS Gr 1-6 N=41			Study 4 JMIS Gr 6-8 N=38		
	Ex M	Con M	p ≤	Ex M	Con M	p ≤
d. Teacher holds students responsible for academic work	4.00	3.33	.01	4.13	3.55	.05
e. Monitors progress in completing assignments	4.09	3.32	.05	3.83	3.33	.05
f. Class has task-oriented focus	3.98	3.42	.05	3.79	3.41	.05
g. Teacher plans appropriate amount of class work	4.07	3.21	.05	4.47	3.72	.001
VIII. Instructional Clarity						
a. Describes objectives clearly	3.39	2.91	.05	3.35	3.05	NS
b. Clear directions for assignments	3.93	3.52	(.06)	3.91	3.48	(.09)
c. Clear explanations & presentations	4.04	3.55	.05	3.77	3.49	NS
d. Checks students' understanding of instructions	3.63	2.94	.05	3.72	3.19	.01

Variables are five-point scales: 1=least characteristic or least frequent; 5=most characteristic or most frequent.
NS: not significant
Significance levels for Studies 3 & 4 are based on two-tailed tests.

Table 5b. Means and standard deviations for classroom ratings of teacher behavior and teaching practice in two experimental field studies (Studies 5 and 6).

	Study 5 CMTET Gr 1-6 N=29						Study 6 CMTST Gr 7-9 N=16					
	Ex		Con		p	effect	Ex		Con		p	effect
	M	SD	M	SD	≤	size	M	SD	M	SD	≤	size
Teacher Behavior Variables												
I. Readying the Classroom												
Classroom is ready for school	4.54	.88	4.07	.88	(.09)	.53	4.69	.53	3.94	1.12	(.06)	.67
II. Developing Rules and Procedures												
a. Efficient administrative routines	4.55	.52	3.57	.92	.001		4.58	.88	4.42	.89	NS	
b. Appropriate general procedures	4.41	.56	3.68	.72	.001		4.57	.82	4.14	1.00	.05	
c. Efficient small group procedures	4.04	1.07	2.63	1.06	.01		-		-			
III. Monitoring												
a. Of student behavior	4.35	.64	3.64	1.13	.05		4.05	1.23	3.33	.91	.05	
b. Of transitions between activities	4.58	.86	4.00	1.07	.05		4.81	.53	3.81	1.13	.05	
IV. Managing Student Behavior												
a. Rewards good performance	3.66	.97	2.77	.97	.05		3.93	1.16	3.08	1.20	.05	
b. Consistent management of behavior	4.40	.58	3.51	1.05	.05		4.06	1.20	2.97	1.17	.05	
c. Signals appropriate behavior	3.58	1.12	2.74	1.21	.01		3.27	.86	2.08	1.01	.01	
d. Allows class to get out of hand	1.54	1.13	1.93	1.28	NS	.30	1.31	.70	2.37	1.38	.05	

Table 5b. (cont'd)

	Study 5 CMTET Gr 1-6 N=29						Study 6 CMTST Gr 7-9 N=16					
	Ex		Con		p	effect	Ex		Con		p	effect
	M	SD	M	SD	<	size	M	SD	M	SD	<	size
e. Stops disruptive behavior quickly	4.85	.38	4.60	.74	NS	.33	4.63	.88	3.31	1.41	.05	
f. Stops inappropriate behavior quickly	3.76	.87	2.85	1.00	.05		4.63	.87	3.31	1.41	.05	
g. Ignores inapprop. beh.	2.19	1.03	2.74	.91	NS		2.51	1.53	4.10	1.10	.05	
V. Teaching Rules & Procedures (First week of school)												
a. Presents, reviews, discusses rules/procedures	4.11	1.05	2.38	1.51	.05		4.00	1.85	3.71	1.89	NS	
b. Rehearsal, practice included in presentation	4.56	.88	3.00	1.58	.05		4.38	1.40	2.71	1.80	.05	
c. Teacher stays in charge of whole class	5.00	.00	4.72	.47	.05		4.50	1.41	4.00	1.73	NS	
VI. Organizing Instruction												
a. Student attention spans considered	4.15	.59	3.43	.73	.01		3.87	.83	3.28	.79	.05	
b. Appropriate lesson pacing	4.31	.62	3.32	1.05	.01		4.15	.87	3.41	.66	.01	
c. Lessons related to students' backgrounds & interests	3.51	.72	2.96	.88	NS	.62	3.82	.86	3.11	1.01	.05	
d. Low amount of down time: students waiting	4.38	.96	3.73	.96	.05		3.75	.85	2.88	1.51	(.10)	.59
VII. Student Accountability												
a. Checks students' understanding	4.36	.65	3.58	1.07	.05		4.46	.70	3.92	1.02	.01	
b. Consistency in enforcing academic work standards	4.09	.89	3.62	1.01	(.10)	.46	4.27	.80	3.41	.89	.05	
c. Suitable routines for collecting & checking work	4.20	.57	3.63	.80	.05		4.53	.74	4.20	.83	.05	

Table 5b. (cont'd)

	Study 5 CMTET Gr 1-6 N=29						Study 6 CMTST Gr 7-9 N=16					
	Ex		Con		p	effect	Ex		Con		p	effec
	M	SD	M	SD	≤	size	M	SD	M	SD	≤	size
d. Teacher holds students responsible for academic work	4.62	.65	3.86	1.07	.05		4.56	.62	3.75	.80	.05	
e. Monitors progress in completing assignments	-	-	-	-			-	-	-	-		
f. Class has task-oriented focus	4.42	.56	3.83	.95	.05		4.53	.73	3.85	.75	.01	
g. Teacher plans appropriate amount of class work	5.00	.00	4.53	.64	.01		4.94	1.09	4.13	1.03	.01	
VIII. Instructional Clarity												
a. Describes objectives clearly	3.99	1.25	2.94	1.22	.05		4.95	.10	4.27	.83	.05	
b. Clear directions for assignments	4.43	.63	3.90	.93	.05		4.66	.63	4.15	.85	.05	
c. Clear explanations & presentations	4.51	.47	3.76	.79	.05		4.45	.81	3.85	.91	.01	
d. Checks students' understanding of instructions	4.41	.63	3.56	1.02	.05		4.47	.72	3.90	.99	.01	

Variables are five-point scales: 1=least characteristic or least frequent; 5=most characteristic or most frequent.
es: effect size
NS: not significant
Significance levels for Studies 5 & 6 are based on one-tailed tests.

Table 6a. Mean from observational data on student behavior collected in two experimental field studies (Studies 3 & 4).

	Study 3 CMIS Gr 1-6 N=41				Study 4 JMIS Gr 6-8 N=38			
	Ex M	Con M	p <	effect size	Ex M	Con M	p <	effect size
Student Variables								
a. Students call-out frequently	2.35	2.94	.05		2.01	2.91	.01	
b. Students are frequently out of seats wandering	-	-			1.57	2.28	.05	
c. Low amount of inappropriate behavior in class	2.61	3.09	.01		2.13	2.63	NS	
d. % of students on-task	92.49	88.93	.05		91.00	85.00	.01	
e. % of students off-task	3.04	5.01	.05		4.00	6.00	.05	
f. Student success in class lessons	3.80	3.66	NS		4.05	3.77	(.10)	

Variables a, b, c, & f are five-point scales: 1=least characteristic or least frequent; 5=most characteristic or most frequent.
Significance levels are based on two-tailed tests.

Table 6b. Means and standard deviations from observational data on student behavior collected in two experimental field studies (Studies 5 & 6).

	Study 5 CMTET Gr 1-6 N=29					Study 6 CMTST Gr 7-9 N=16				
	Ex		Con		p	Ex		Con		p
	M	SD	M	SD	≤	M	SD	M	SD	≤
Student Variables										
a. Students call-out frequently	2.00	.72	2.45	.90	NS	1.69	.88	2.60	1.00	.05
b. Students are frequently out of seats wandering	1.74	.91	2.23	1.21	(.10)	1.38	.69	2.25	1.31	.05
c. Low amount of inappropriate behavior in class	1.69	.58	2.49	1.03	.05	1.95	.95	2.76	1.09	.05
d. % of students on-task	93.20	9.13	82.70	22.66	(.10)	87.95	10.95	75.53	12.44	.05
e. % of students off-task	3.14	2.83	12.23	14.56	.05	7.09	7.86	14.79	10.32	.05
f. Student success in class lessons	3.82	.45	3.46	.64	(.10)	4.36	.52	3.85	.61	.01

Variables a, b, c, & f are five-point scales: 1=least characteristic or least frequent; 5=most characteristic or most frequent.
Significance levels for Studies 5 & 6 are based on one-tailed tests.